

Remarks

Upon entry of the foregoing amendment, claims 1-10 are pending in the application, with claims 1 and 10 being the independent claims.

Claims 1 and 10 were rejected as anticipated by U.S. Patent 5,485,571 to Menon. Dependent claims 2-9 were rejected as obvious based on the Menon disclosure. These rejections are respectfully traversed in view of the above amendments and the following remarks.

Menon appears to disclose a RAID array where data regions, parity regions, and spare regions are placed across a plurality of disks to provide a uniform workload distribution and to allow rebuilding the array without a loss of redundancy in case of a single disk failure, or a series of single disk failures. However, Menon does not address the problem of concurrent failures of more than one disk drive. In particular, Menon does not teach or suggest a system that can handle concurrent failures. Systems operating according to the examples shown in Menon would lose data if two or more drives failed at the same time, or if a second drive failed before the rebuild was complete.

The pending claims have been amended to recite that the claimed disk drives may be rebuilt after concurrent disk failures. As defined in the specification, concurrent disk drive failures are "disk drive failures that occur before a rebuild completes."

The inventors have discovered that their method of establishing free space areas on a plurality of disks, and rebuilding these disks using that free space, provides particular advantages when applied in the context of RAID1, RAID6, and RAID10

arrays, resulting in an array that not only handles multiple concurrent failures, but also keeps standby disk space active, resulting in better performance, and preventing undetected failure of a standby disk that is not in use. These advantages are explained in detail at page 3 and pages 11-12 of the specification.

The pending claim rejections and the assertions in the Office Action regarding Menon are respectfully traversed, but will not be addressed in detail since they are moot in view of the above amendments.

It should be noted with respect to claim 4 that this claim recites generating new data and redundant data for concurrent disk drive failures of more than one disk drive. This feature was not addressed in the Office Action, and no citation to a disclosure of this feature in Menon was provided. As noted above, after reviewing Menon, applicants do not believe Menon discloses or suggests this feature.

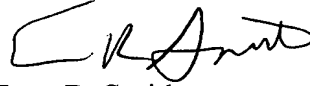
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

A handwritten signature in black ink, appearing to read "E. R. Smith", written over a horizontal line.

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Date: 9/20/04

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